

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated December 28, 2004. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 1, 3-6, 12-15, and 18 are under consideration in this application. Claims 2, 7-11, 16-17 and 19-20 are being cancelled without prejudice or disclaimer. Claim 1 is being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim applicants' invention.

The claims are being amended to correct formal errors and/or to better disclose or describe the features of the present invention as claimed. All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Formality Rejection

Claims 1 and 7 were objected to due to the confusing recitation of "to seal a gap therebetween from outside air" and required correction thereof. As indicated, claim 7 is being cancelled without prejudice or disclaimer and claim 1 is being amended as required by the Examiner. Accordingly, the withdrawal of the outstanding informality rejection is in order, and is therefore respectfully solicited.

Prior Art Rejection

Claims 1-4 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) in view of U.S. Pat. No. 6,590,625 to Umemoto et al. (hereinafter "Umemoto"), and claims 5-17 and 19-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) in view of Umemoto, and further in view of JP06-095105 to Yamaguchi et al. (hereinafter "Yamaguchi"). These rejections have been carefully considered, but are most respectfully traversed in view of the newly submitted claims, as more fully discussed below.

The liquid crystal display device of the invention (e.g., Fig. 1), as now recited in claim

1, comprise: a liquid crystal display element PNL, a direct backlight having a light source CFL located right below a back surface of the liquid crystal element PNL (p. 2, lines 14-16), a substantially rectangular diffusion plate SCT which is interposed between the liquid crystal display element PNL and the light source CFL, at least one optical sheet OPS which is arranged between the diffusion plate SCT and the liquid crystal display element PNL, a transparent sheet TPS which is arranged between the diffusion plate SCT and the light source CFL and has a contour which is substantially equal to a contour of the diffusion plate SCT. The at least one optical sheet OPS is brought into contact with the diffusion plate SCT, and four sides of the transparent sheet TPS are adhered to the diffusion plate SCT so as to define a gap therebetween that is sealed from outside air (See Abstract).

As recited in claim 5, a spacer HLD (Figs. 6-9; p. 11, 1st and 2nd full paragraphs) which restricts a warp quantity of the diffusion plate SCT in the direction toward the light source CFL.

“All four sides, that is, the entire peripheries of the diffusion plate SCT and the transparent sheet TPS are adhered to each other using a pressure sensitive adhesive double-coated tape BA such that the inside of the adhered entire peripheries is completely sealed. Accordingly, the leaking of moisture from the inside of the adhered entire peripheries can be suppressed (p. 24, 1st paragraph).”

Applicants respectfully submit that none of the cited prior art references teaches or suggests such “a transparent sheet TPS (1) arranged between the diffusion plate SCT and the light source CFL, (2) with a contour which is substantially equal to a contour of the diffusion plate SCT, and (3) with its four sides adhered to the diffusion plate SCT so as to define a gap therebetween that is sealed from outside air” to prevent *leaking of moisture* according to the invention.

As admitted by the Examiner (p. 3, 3rd full paragraph), AAPA does not teach a transparent sheet TPS with the (1)-(3) features. Umemoto was relied upon by the examiner to compensate for the deficiencies. However, Umemoto merely teaches that “*optical elements or parts such as the light pipe, the light diffusion layer, the liquid-crystal cells, the polarizing plates, etc. constituting the aforementioned liquid-crystal display device may be wholly or partially laminated and fixed so as to be integrated with one another or may be disposed in an easily separable state. From the point of view of prevention of lowering of contrast due to suppression of interfacial reflection, or the like, it is preferable that the optical elements or parts are fixed*(col. 13, line 56-65).“ At most, Umemoto teaches providing a transparent

adhesive between a light pipe of a **side-edge** backlight LCD device (p. 1, 3rd line to the bottom) and a light diffusion layer, rather than a transparent layer between a back light source of a **direct** type backlight light LCD device and a diffusion layer (p. 2, line 15).

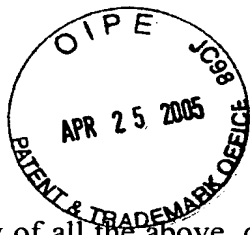
Umemoto does not suggest in any way “defining a gap therebetween that is sealed from outside air.” Umemoto’s teaching of “*the light diffusion layer,... may be wholly or partially laminated and fixed so as to be integrated with one another*” actually teaches away from “maintaining an air-tight gap therebetween”. It is well established that a rejection based on cited a reference that teaches away from the invention is improper. Umemoto’s teaching of “*the light diffusion layer,... may be wholly or partially laminated and fixed so as to ... be disposed in an easily separable state*” does not imply anything related to “maintaining an air-tight gap therebetween.” Umemoto’s purpose of “*prevention of lowering of contrast due to suppression of interfacial reflection*” does not teach or suggest “maintaining an air-tight gap therebetween.”

Although the invention applies a general transparent layer, the transparent layer is applied in a direct type backlight LCD to achieve unexpected results or properties. For example, to prevent *leaking of moisture* between the light source and the diffusion plate, which is unknown in view of Umemoto.

Although one of skill in the art could modify the combination of AAPA and Umemoto to meet the terms of the claims is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for one skilled in the art to provide the unexpected properties, such as to prevent *leaking of moisture* between the light source and the diffusion plate, without the benefit of appellant's specification, to make the necessary changes in the reference device. *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). MPEP§2144.04 VI C.

Yamaguchi’s screws 20 was relied upon by the Examiner to anticipate the spacer recited in claim 5. As shown in Fig. 1, air flows freely around the screws 20. There are gaps between light curtain 10 and the lamp 13, but they are not air-tight. As such, Yamaguchi fails to compensate for Umemoto’s deficiencies.

Applicants contend that AAPA, Umemoto, Yamaguchi and their combination fail to teach or disclose each and every feature of the present invention as disclosed in independent claim 1. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.



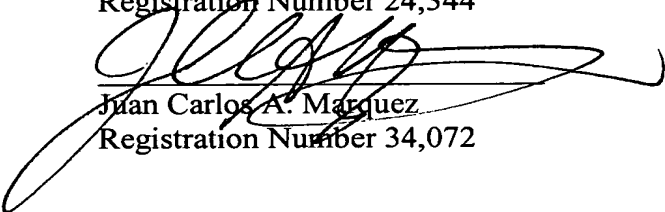
Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicants respectfully contend that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,

Stanley P. Fisher
Registration Number 24,344



Juan Carlos A. Marquez
Registration Number 34,072

REED SMITH LLP
3110 Fairview Park Drive, Suite 1400
Falls Church, Virginia 22042
(703) 641-4200

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